



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,806	08/08/2000	Eric Lenz	LAM1P144/P0665	4483

22434 7590 06/25/2002

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

ALEJANDRO MULERO, LUZ L

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 06/25/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,806

Applicant(s)

LENZ ET AL.

Examiner

Luz L. Alejandro

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of group I in Paper No. 6 is acknowledged.

Claims 14-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Specification

The disclosure is objected to because of the following informalities: on page 2, lines 3-4 of the specification, the phrase "desirable to a vacuum chamber" is unclear.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the central cavity" in line 3. There is insufficient antecedent basis for this limitation in the claim. It is suggested to replace "the central cavity" with --the main cavity--.

Art Unit: 1763

Once a limitation is introduced is introduced in a claim sequence subsequent use of that limitation must use either – the – or – said --, or be appropriately differentiated to represent a different limitation, note the term “wherein pocket”. It is suggested to replace “wherein pocket” with – wherein the pocket --.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoog et al., U.S. Patent 4,585,920.

Hoog et al. shows the invention as claimed including an apparatus 10 comprising: a vacuum chamber wall defining a main cavity and an opening (see fig. 1);

Art Unit: 1763

an exhaust port in fluid connection with the main cavity for establishing a vacuum in the main cavity; a cover for sealing the opening when the cover is supported by the chamber wall, the cover comprising: a first section 18 adjacent to the main cavity; a second section 12 on a side of the first section opposite of the main cavity; and a pocket between the first section and the second section, and extending substantially across the opening (see fig. 1). Furthermore, a critical element 17 is supported by a region of the first section; the pocket extends above a region of the first section upon which the critical element is supported (see fig. 1); channels extend from the main cavity to the pocket (see fig. 1); and wherein the first section of the cover is supported by the chamber wall 42 (see fig. 1 and col. 2-line 38 to col. 3-line 13). Additionally, the cover further comprises a vacuum tight seal between the first section and the second section, as required by claims 12-13.

Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yashima, U.S. Patent 5,685,949.

Yashima shows the invention as claimed including an apparatus 74 comprising: a vacuum chamber wall defining a main cavity and an opening; an exhaust port 76 in fluid connection with the main cavity for establishing a vacuum in the main cavity; a cover for sealing the opening when the cover is supported by the chamber wall comprising: a first section 81 adjacent to the main cavity; a second section 72 on a side of the first section opposite of the main cavity; and a pocket 78 between the first section and the second section, and extending substantially across the opening. Furthermore,

a critical element 80 is supported by a region of the first section; the pocket extends above a region of the first section upon which the critical element is supported; channels 80a/81a extend from the main cavity to the pocket; and wherein the first section of the cover is supported by the chamber wall (see fig. 3 and col. 11-line 65 to col. 12-line 62). Furthermore, note that the cover further comprises a vacuum tight seal between the first section and the second section, as required by claims 12-13.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hillman, U.S. Patent 5,997,649.

Hillman shows the invention as claimed including an apparatus 10 comprising: a vacuum chamber wall 16 defining a main cavity 14 and an opening; an exhaust port in fluid connection with the main cavity for establishing a vacuum in the main cavity; a cover 52/61 for sealing the opening when the cover is supported by the chamber wall comprising: a first section 50 adjacent to the main cavity; a second section 61 on a side of the first section opposite of the main cavity; and a pocket 66 between the first section and the second section, and extending substantially across the opening. Furthermore, a critical element 44 is supported by a region of the first section; the pocket extends above a region of the first section upon which the critical element is supported (see fig. 1); channels 46 extend from the main cavity to the pocket; and wherein the first section of the cover is supported by the chamber wall 16 (see fig. 1 and col. 5-line 63 to col. 8-line 28).

With respect to claim 6, the second section is supported by the first section through the shower electrode 44 (see fig. 1). Furthermore, regarding claims 7-8, note that the critical element is a showerhead electrode to which a radio frequency power source 60 is electrically connected (see fig. 1). Additionally, note that the cover further comprises a vacuum tight seal (64,72,74) between the first section and the second section, as required by claims 9 and 12-13.

Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al., U.S. Patent 6,199,505 B1.

Sato et al. shows the invention as claimed including an apparatus 40 comprising: a vacuum chamber wall 42 defining a main cavity 76 and an opening; an exhaust port (see fig. 3) in fluid connection with the main cavity for establishing a vacuum in the main cavity; a cover for sealing the opening when the cover is supported by the chamber wall, the cover comprising: a first section 88 adjacent to the main cavity; a second section 44a on a side of the first section opposite of the main cavity; and a pocket 90 between the first section and the second section, and extending substantially across the opening. Furthermore, a critical element 80 is supported by a region of the first section; the pocket extends above a region of the first section upon which the critical element is supported (see fig. 3); a channel extend from the main cavity to the pocket (see opening in first section 88 in fig. 3); and wherein the first section of the cover is supported by the chamber wall 42 (see fig. 3 and col. 7-line 60 to col. 8-line 56). Additionally, note that

the cover further comprises a vacuum tight seal between the first section and the second section, as required by claims 12-13.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yashima, U.S. Patent 5,685,949 in view of Hillman, U.S. Patent 5,997,649.

Yashima is applied as above but does not expressly disclose that the second section is supported by the first section. Hillman discloses an apparatus similar to Yashima in which the second section is supported by the first section through the

shower electrode 44 (see fig. 1). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Yashima as to comprise such a claimed support arrangement because such arrangement is suitable for supporting the claimed structure, there is no evidence that the particular second section support arrangement would significantly affect the overall performance of the plasma processing apparatus, and furthermore, rearrangement of parts has been held to have been obvious and therefore a prima facie case of obviousness exists.

With respect to claims 7-8, note that the critical element 80 is an electrode to which radio frequency power source 40 is connected.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., U.S. Patent 6,199,505 B1 in view of Hillman, U.S. Patent 5,997,649.

Sato et al. is applied as above but does not expressly disclose that the second section is supported by the first section. Hillman discloses an apparatus similar to Yashima in which the second section is supported by the first section through the shower electrode 44 (see fig. 1). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Sato et al. as to comprise such a claimed support arrangement because such arrangement is suitable for supporting the claimed structure, there is no evidence that the particular second section support arrangement would significantly affect the overall performance of the plasma processing apparatus, and furthermore,

Art Unit: 1763

rearrangement of parts has been held to have been obvious and therefore a prima facie case of obviousness exists.


With respect to claims 7-8, note that the critical element 80 is an electrode to which radio frequency power source 86 is connected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 703-305-4545. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Luz L. Alejandro
Patent Examiner
Art Unit 1763

June 23, 2002